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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,623	07/31/2002	Michael John Collins	1700.119	8848

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EXAMINER	
VAN, QUANG T	
ART UNIT	PAPER NUMBER
3742	5

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/064,623	COLLINS ET AL.	
	Examiner	Art Unit	
	Quang T Van	3742	5

-- The MAILING DATE of this communication appears on th cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *telephone interviewed on 12-23-03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

4a) Of the above claim(s) *1-27* is/are withdrawn from consideration.

5)☒ Claim(s) *44* is/are allowed.

6)☒ Claim(s) *28-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 July 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention: Species I (Figure 10, claims 1-27), Species II (Figure 11, claims 28-44).

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over

the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Mr. Philip Summa on December 23, 2003 a provisional election was made with traverse to prosecute the invention of Species II (Figure 11). The Examiner was mistaken identify claims **21-44** are read on Species II (Figure 11); however, correctly claims **28-44** are read on Species II (Figure 11). Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The term "cavity 23" recited on page 21, paragraph 84, line 3 fail to show on figures 10 and 11. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

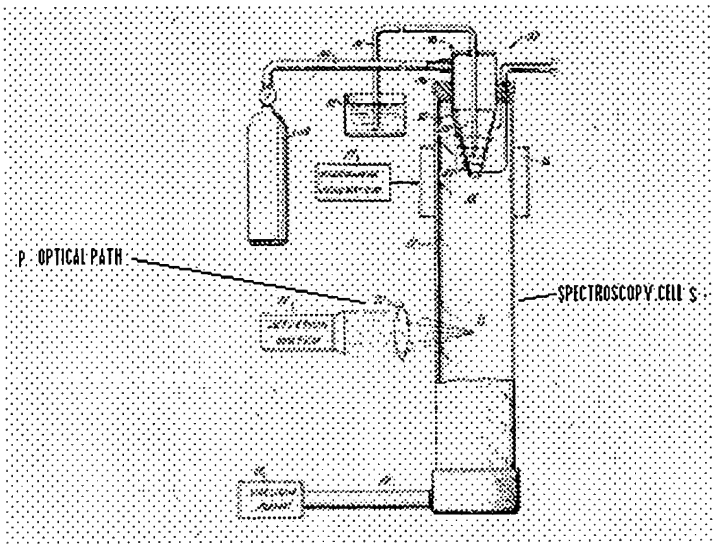
5. The specification is objected to because of the following informalities: "application Nos. _ _ _ _ _." recited on page 13, paragraph 56, lines 4, has missing number. The term "Figurefor" recited on page 16, paragraph 67, line 6 and "Figurealso" recited on page 16, paragraph 67, line 8 have typo error. Correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 34-35, 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson et al (US 4,225,235). Anderson discloses a system for analyzing the elemental or molecular composition of a sample comprising a microwave cavity (16); a flow cell (12, col. 3, lines 31-33) in said cavity; a spectroscopy cell (S, figure below) external to said cavity (16) and in fluid communication with said flow cell (12); and spectrometer (21) with said spectroscopy cell (S) in the optical path (P, figure below) of said spectrometer (21) for analyzing the characteristics of fluids flowing from said flow cell (12) and through said spectroscopy cell (S).



8. Claims 34-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Peacock et al (US 4,427,633). Peacock discloses a system for analyzing sample comprising a microwave cavity (col. 4, lines 37-38); a flow cell (20, 36) in said cavity; a spectroscopy cell (12, 32) external to said cavity and in fluid communication with said flow cell (20, 36); and spectrometer (15) with said spectroscopy cell (12, 32) in the optical path of said spectrometer (15) for analyzing the characteristics of fluids flowing from said flow cell (20, 36) and through said spectroscopy cell (12, 32).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 28-30, 33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (US 4,225,235) in view of Lauf et al (US 6,268,596).

Anderson discloses substantially all features of the claimed invention except the step of directing a continuous flow of fluid through a single mode microwave cavity while applying microwave radiation to the cavity and to the continuous flow of materials therein. Lauf discloses the step of directing a continuous flow of fluid through a single mode microwave cavity while applying microwave radiation to the cavity and to the continuous flow of materials therein (figure 2, col. 6, lines 14-30). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Anderson the step of directing a continuous flow of fluid through a single mode microwave cavity while applying microwave radiation to the cavity and to the continuous flow of materials therein as taught by Lauf for reducing microwave power to control temperature and reduce the efficient process of the certain chemical reaction.

11. Claims 31 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (US 4,225,235) in view of Lauf et al (US 6,268,596) and further in view of Schlie (US 5,235,251). Anderson/Lauf disclose substantially all features of the claimed invention except the step of moderating the cavity conditions comprising cooling the fluid flow in the cavity. Schlie discloses the step of moderating the cavity conditions comprising cooling the cell (43), which contain fluid (nitrogen gas); Thus, it is inherent to cool the fluid flow in the cavity (col. 5, lines 35-50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Anderson/Lauf the step of moderating the cavity conditions comprising cooling the fluid flow in the cavity as taught by Schlie in order to prevent the cell and the fluid from being over heat.

12. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (US 4,225,235) in view of Lauf et al (US 6,268,596) and further in view of Strauss et al (US 5,387,397). Anderson/Lauf disclose substantially all features of the claimed invention except the step of moderating the cavity conditions comprising adjusting the fluid flow rate through the cavity. Strauss discloses the step of moderating the cavity conditions comprising adjusting the fluid flow rate through the cavity (col. 2, lines 57-62). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Anderson/Lauf the step of moderating the cavity conditions comprising adjusting the fluid flow rate through the cavity as taught by Strauss in order to control the chemical reaction at predetermined temperature.

13. Claims 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (US 4,225,235) in view of Lauf et al (US 6,268,596) and Schlie (US 5,235,251) and further in view of Drew et al (US 5,313,061). Anderson/Lauf/Schlie disclose substantially all features of the claimed invention except a processor in signal communication with said spectrometer and with said cooling system. Drew discloses a processor in signal communication with said spectrometer and with said cooling system (figure 1a-b and col. 35, lines 33-36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Anderson/Lauf/Schlie a processor in signal communication with said spectrometer and with said cooling system as taught by Drew in order to analyze and also control the temperature of the heating fluid.

14. Claims 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (US 4,225,235) in view of Lauf et al (US 6,268,596), Schlie (US 5,235,251), Drew et al (US 5,313,061) and further in view of Strauss et al (US 5,387,397). Anderson/Lauf/Schlie/ Drew disclose substantially all features of the claimed invention except a pressure detector in fluid communication with said flow cell and in signal communication with said processor. Strauss discloses a pressure detector in fluid communication with said flow cell and in signal communication with said processor (col. 4, lines 31-52). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Anderson/Lauf/Schlie/ Drew a pressure detector in fluid communication with said flow cell and in signal communication with said processor as taught by Strauss in order to control the pressure of the flow heating fluid.

15. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (US 4,225,235) in view of Lauf et al (US 6,268,596), Schlie (US 5,235,251), Drew et al (US 5,313,061) and further in view of Jennings et al (US 6,607,902). Anderson/Lauf/Schlie/ Drew disclose substantially all features of the claimed invention except a waveguide between said source and said cavity and in microwave communication with said source and said cavity. Jennings discloses a waveguide between said source and said cavity and in microwave communication with said source and said cavity (col. 2, lines 46-56). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Anderson/Lauf/Schlie/ Drew a waveguide between said source and said cavity and in

microwave communication with said source and said cavity as taught by Jennings in order to guide the magnetron from the microwave source to the cavity.

16. Claim 44 is allowed.

17. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not show or suggest a flow cell releasably engaged with said attenuator in a manner that fixes the positions of said attenuator and said flow cell with respect to one another when they are engaged and that correspondingly fixes said flow cell in the same position with respect to said cavity when said attenuator is engaged with said cavity as recited in claim 44.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang T Van whose telephone number is 703-306-9162. The examiner can normally be reached on 8:00Am 7:00Pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 703-308-2634. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

QV
December 22, 2003

Quang T Van
Primary Examiner
Art Unit 3742